

REMARKS

Claims 1-2, 5-9, 70, 75-91 were pending in the current application. Applicants have amended claims 1, 75, 83, and 86. Reexamination and reconsideration of all of the claims are respectfully requested.

35 U.S.C. § 102 and § 103

The Office Action rejected claims 75, 82, 83, 85, 86, and 91 under 35 U.S.C. § 102(b) based on Leidig, U.S. Patent 6,388,819 (“Leidig”). The Office Action also rejected claims 1-2, 5-9, 70, and 75-91, or all pending claims, under 35 U.S.C. § 102(b) based on Shafer et al., U.S. Patent No. 6,842,298 (“Shafer ‘298”). The Office Action additionally rejected claims 1, 9, and 76 under 35 U.S.C. § 103(a) based on Leidig in view of Shafer et al., U.S. Publication No. 2001/0040722 (“Shafer ‘722”).

Applicants have amended independent claims 1, 75, 83, and 86 to recite that the imaging subsystem is configured to provide a field size in excess of approximately 0.4 millimeters at a numerical aperture of approximately 0.90, or the optical elements used to receive said light energy and direct light energy toward the specimen are configured to provide a field size in excess of approximately 0.4 millimeters at a numerical aperture of approximately 0.90. None of the cited references, including Leidig and Shafer ‘298, show such a design.

Leidig

Leidig shows a lens design having a field size that is dimensionally unspecified. While not explicitly spelled out in terms of diameter in millimeters, the Leidig design does claim a field of “at least [plus or minus] two degrees.” Leidig, Col. 6, ll. 49-50; Table 1D, reciting “composite field of +/- 2.0 degrees...” The field shown in FIG. 5 is much narrower than the diameter of lens 3, whose dimension is not provided. It is therefore difficult to ascertain the field size of the Leidig design. However, the highest numerical aperture recited in Leidig is 0.70, and the value of 0.65 is employed throughout. As alluded to in the present application, increasing numerical aperture results in a smaller field size. What can

be conclusively said about the Leidig design is that it does not show a design configured to provide a field size in excess of approximately 0.4 millimeters at a numerical aperture of approximately 0.90. Even assuming a field size of 0.4 millimeters in the illustration of FIG. 5 of Leidig, which is highly questionable, such a field size would decrease with a numerical aperture raised from 0.65 or 0.70 to approximately 0.90.

Regarding specific dimensions provided in Leidig, Applicants note that mounting barrel 5 of FIG. 4, which houses the lenses in question, is said to be less than 11 millimeters, and has a diameter in the range of 5.0-6.0 millimeters. Leidig, Col. 7, ll. 29-34. Using these dimensions in conjunction with the embodiment of FIG. 5, it is apparent that lens 3 may be approximately 4.5 or 5 millimeters in diameter. With a plus or minus two degree field, the actual field size may be in the range of 0.4 millimeters or less, but this is unclear from FIG. 5. In fact, FIG. 5 makes the field appear as a very small point or zone.

The independent claims, as amended, recite the limitation that the imaging subsystem or optical elements are configured to provide a field size in excess of approximately 0.4 millimeters at a numerical aperture of approximately 0.90. Leidig shows no such field size – numerical aperture configuration. Thus the claims, as amended, are not anticipated by Leidig.

Shafer '298

Shafer '298 discloses a system wherein field size varies, but is explicitly spelled out for example at Col. 8, ll. 40-42, which states: "The field sizes for the 0.85 NA and the 0.386 NA modes of operation are 0.264 mm diameter and 0.58 mm diameter, respectively." Values between these two NA values are not discussed, but as noted above, this passage demonstrates that an increase in numerical aperture for a given implementation typically results in a decrease in field size. Thus Shafer '298 does not show an imaging subsystem or plurality of optical elements configured to provide a field size in excess of approximately 0.4 millimeters at a numerical aperture of approximately 0.90.

Shafer '722

While not specifically cited for the imaging subsystem components claimed herein, but solely for the wavelength range recited in claims 1, 9, and 76, Applicants further submit that Shafer '722 does not show a system or arrangement configured to provide a field size in excess of approximately 0.4 millimeters at a numerical aperture of approximately 0.90 or having the limitations recited in all of the independent claims as currently amended. Applicants submit that Shafer '722, like Leidig and Shafer '298, neither disclose nor suggest a design having the limitations recited in the independent claims of the present application, as amended.

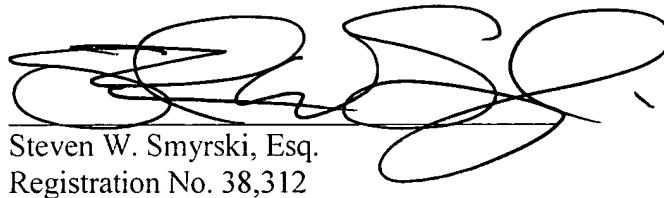
As none of the cited references disclose systems or methods having all of the limitations recited in the independent claims, as amended, Applicants submit that the claims are not anticipated nor rendered obvious by the references, either alone or in combination. Applicants therefore respectfully submit that independent claims 1, 75, 83 and 86 are allowable over the references of record, as such claims as amended are neither anticipated nor obvious based on those references. Further, claims depending from claims 1, 75, 83, and 86 are allowable as they depend from an allowable base claim.

CONCLUSION

In view of the foregoing, it is respectfully submitted that all claims of the present application, as amended, are in condition for allowance. Reconsideration of all of the claims is respectfully requested and allowance of all the claims at an early date is solicited.

Applicants believe that no fees are required with the present response in addition to those provided herewith. Should it be determined for any reason an insufficient fee has been paid, please charge any insufficiency to ensure consideration and allowance of this matter to Deposit Account 502026.

Respectfully submitted,



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